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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,438	06/01/2001	Larry A. Coldren	G&C 122.2-US-UI	1911

22462 7590 03/25/2003

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EXAMINER

ZAHN, JEFFREY N

ART UNIT PAPER NUMBER

2828

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/872,438

Applicant(s)

COLDREN ET AL.

Examiner

Jeffrey N Zahn

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 27-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 27-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

  
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TECHNOLOGY CENTER 2800

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-13 and 27-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Regarding Claims 1-13 and 27-29, it is unclear what the Applicant is claiming. Specifically, the following:

- 1) the cooperative relationship of the gain section as related to the other structural limitations (i.e. the phase section; waveguide section mirror, cavity, etc.);
- 2) the cooperative relationships of the cavity to the other structure of the claimed device;
- 3) how the claimed device functions to produce a tunable laser, (Claims 1-13) there is no mention of this feature in the body of the claim;
- 4) what includes the SCH? (the waveguide or cavity);
- 5) what elements comprise the cavity?

The language of Claims 1 and 27 makes it very unclear what the Applicant is claiming; the issues outlined above is not an exhaustive list.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-3, 9, 10, 13 and 27-39, 35-36 and 39-41 are rejected under 35**

**U.S.C. 102(b) as being anticipated by Coldren (US 4,896,325).**

Regarding Claim 1-3, 13, 27-29, and 39-41 Coldren discloses a tunable laser (abstract) comprising:

a gain section (36) for creating a light beam;

a phase section (32) for controlling the light beam around a center frequency of the bandwidth;

a waveguide (Fig. 5; between right and left mirrors) for guiding and reflecting the light beam in a cavity including a relatively low energy bandgap SCH (col. 6, line 37- col. 7, line 64);

a front mirror (40) bounding an end of the cavity;

a back mirror (42) bounding an opposite end of the cavity;

wherein gain for the light beam is provided by reflecting light between the said mirrors (40)42).

Regarding Claims 9-10 and 35-36, these claims have added limitations consistent with a method or process claim. Accordingly, the added further method

limitations are not given any patentable weight for purposes of examining the product claims they depend from.

### ***Response to Arguments***

The arguments submitted by the Applicant in Paper No. 9 on 06 February 2003 have been considered but are not persuasive. Specifically, the Applicant argues at page 8, 2<sup>nd</sup> paragraph, that Coldren (US 4896325) does not disclose 1) a phase section or mirror section that provides additional gain and 2) Coldren does not disclose a relatively low energy bandgap SCH. These arguments are unpersuasive because the claims do not have structural limitations/features different from the cited prior art that support "the additional gain." In addition, "a relatively low energy bandgap" is very broad due to the indefinite nature of "relatively low."

The Examiner recommends that the claims be amended to overcome the 35 U.S.C. 112, second paragraph, indefinite rejections discussed above. This will enable a more narrow analysis of the claims as read on the cited prior art.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

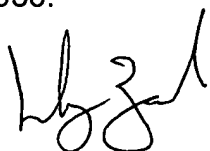
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

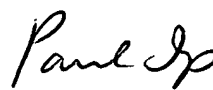
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey N Zahn whose telephone number is 703-305-3443. The examiner can normally be reached on M-F: 8:30-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 703-308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



Jeffrey Zahn  
March 17, 2003

  
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